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Erbium-doped tellurite glasses with high quantum efficiency and broadband stimulated emission cross section at 1.5 µm

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Titre	Erbium-doped tellurite glasses with high quantum efficiency and broadband stimulated emission cross section at 1.5 µm
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Auteur	Rolli, Raffaella [1], Montagna, Maurizio [2], Chaussedent, Stéphane [3], Monteil, André [4], Tikhomirov, V.K. [5], Ferrari, Maurizio [6]
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Résumé en anglais	Optical transitions of Er3+ ion in two tellurite glasses of molar composition 75TeO2:12ZnO:10Na2O:2PbO:1Er2O3 and 75TeO2:12ZnO:10Na2O:2GeO2:1Er2O3 were investigated. The measured absorption and emission spectra were analysed by Judd–Ofelt and McCumber theories, in order to obtain radiative transition rates and stimulated emission cross sections. It was found that these glasses have high and broadband absorption and stimulated emission cross sections at 1.5 µm. For the metastable 4I13/2level, by comparing the measured lifetime with the calculated radiative decay time, quantum efficiency higher than 80% was found.
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Titre abrégé	Optical Materials

Liens

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[10] http://okina.univ-angers.fr/publications?f[keyword]=14496
[11] http://okina.univ-angers.fr/publications/ua8746
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